Resolution 20-1R1

APPROPRIATE POWER FLUX DENSITY LIMITS AND COORDINATION DISTANCES TO PROTECT THE SPACE RESEARCH SERVICE (SRS) IN THE BAND 37 – 38 GHz

The SFCG,

CONSIDERING

a) that the band 37-38GHz is allocated to the SRS on a primary basis;

b) that the band 37.5-40.5 GHz is allocated to Fixed-Satellite Service (FSS) (space-to-Earth) on a primary basis;

c) that WRC-2000 identified the band 37–38 GHz, amongst others, for High Density applications of the Fixed Service (HDFS);

d) that aspects of frequency sharing between the SRS and other services in the band 37-38GHz are contained in Question ITU-R 211/7(1993);

e) that a review of the SRS data availability requirements, with a view to some relaxation, may result in a more compatible sharing environment;

f) that sharing studies between the SRS and the FSS are being conducted by ITU JRG 4A-7B;

g) that the band 37–38 GHz is planned to be used for Lunar, Planetary, S-VLBI, Earth-sun Lagrangian points and Near-Earth applications;

h) that more than 500 MHz may be needed for high data rate transmission system between the moon and the Earth;

i) that protection criteria for the SRS in the band 37-38GHz are contained in Recommendation ITU-R SA.1396;

j) that ITU-R studies indicate a high potential for interference from FSS systems to some SRS earth stations receiving very high data rates from the moon;

k) the current studies indicate that a PFD limit between –123 dBW/m^2/MHz for high angles of incidence and –126 dBW/m^2/MHz for low angles of incidence would adequately protect METS (Moon-Earth Transmission System) applications;

l) that in accordance with RR S21.16, the PFD limits for the SRS are –105 dB(W/m^2/MHz) at angles of incidence above 25° and -120 dB(W/m^2/MHz) for non-GSO SRS missions and –125 dB(W/m^2/MHz) for GSO SRS missions at angles of incidence below 5°;

m) that in accordance with RR S21.16, non-GSO FSS PFD limits are -105 dB(W/m^2/MHz) at angles of incidence above 25°and –120 dB(W/m^2/MHz) at angles of incidence below 5° and GSO FSS PFD limits are–105 dB(W/m^2/MHz) at angles of incidence above 25° and –127 dB(W/m^2/MHz) at angles of incidence below 5°;

n) that WRC-03 will consider agenda item 1.32 addressing technical and regulatory provisions concerning the band 37.5-43.5 GHz, in accordance with Res.128 (Rev.WRC-2000) and 84 (WRC-2000);

o) that WRC-03 will consider agenda item 1.12 including a review of all EESS and SRS allocations between 35 and 38 GHz;

p) that WRC-2000 adopted Res.75 (WRC-2000) addressing the development of the technical basis for determining the coordination area for coordination of a receiving earth station in the space research service (deep space) with transmitting stations of high-density systems in the fixed service in the 31.8-32.3 GHz and 37-38 GHz bands;

NOTING

that other types of SRS applications in the band 37.5-38 GHz may have additional protection requirements for FSS PFD limits which may have to be taken into account;

RESOLVES

1. that member agencies urge their administrations to support “no change” to the current PFD limits for the SRS in the band 37-38 GHz when considering modifications to the PFD limits for the FSS as contained in RR S21.16 under WRC-2003 agenda item 1.32;

2. that appropriate FSS PFD limits to adequately protect METS and some other SRS Earth stations in the band 37.5-38 GHz may range between -123 dBW/m^2/MHz for high angles of incidence and -126 dBW/m^2/MHz for low angles of incidence based on currently available study results;

3. that member agencies urge their administrations to support the development of appropriate FSS PFD limits to facilitate sharing between SRS earth stations and FSS satellites in the band 37.5-38 GHz as a consequential change under WRC-2003 agenda items 1.32 and 1.12;

4. that member agencies request their administrations to support the preparation of the technical basis for the determination of suitable coordination distances to protect SRS earth stations from HDFS interference in the band 37-38 GHz.